STATEMENT OF CONSIDERATIONS

REQUEST BY PRAXAIR, INC. (PRAXAIR) FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS TO INVENTIONS MADE UNDER A SUBCONTRACT TO COOPERATIVE AGREEMENT NUMBER DE-FC04-02AL67614, DOE WAIVER NO. W(A) 02-055.

The Petitioner, Praxair, has requested a waiver of all domestic and foreign patent rights to inventions that the Petitioner may conceive or first actually reduce to practice in the course of Praxair's work as a subcontractor to General Electric – Energy and Environmental Research Corporation (GE-EERC) under Cooperative Agreement Number DE-FC04-01AL67614 entitled "Automatic Cyclic Reformer Based Fueling System" with the U.S. Department of Energy (DOE). GE-EERC has already requested a similar advance waiver of rights for GE-EERC's inventions as the prime contractor. GE-EERC's advance waiver petition has been given the tracking number W(A) 02-016.

The work to be done under the overall cooperative agreement will be the design and development of a small-scale hydrogen production system as part of a larger hydrogen refueling station whose goal is to provide hydrogen to consumer vehicles at a cost of $2.50/kg. Praxair's work under the subcontract will focus on the development of novel systems for hydrogen purification, compression and storage. Praxair shall also assist in the design, development and testing of an automatic cyclic reformer (ACR) which shall be the heart of the hydrogen refueling station. This research and development will lead to broader use of fuel cell technologies, which will result in better air quality and lowered dependence on unstable overseas oil supplies.

The overall cooperative agreement covers a period from October 1, 2001 through September 30, 2005 at a total cost to DOE of $2,651,000. DOE funds to be provided as follows: FY01 -- $120,000; FY02 -- $405,000; FY03 -- $859,000; FY04 -- $932,000; FY05 -- $335,000. The prime contractor, GE-EERC, will expend $2.151,000 as a cost share over the period of this agreement (44.8%). The subcontract itself covers a period from October 1, 2001 through September 30, 2005, at a total overall cost of $2,585,009. Praxair will provide approximately $1.1M as a cost share over the life of the subcontract (43%). Praxair has previously invested over $9M in the development of small-scale hydrogen production similar to the hydrogen refueling station that is the goal of the overall cooperative agreement. The government contribution for the agreement and subcontract will be made through Budget & Reporting Codes EE0502 and EB42, sponsored by the Office of Advanced Automotive Technologies.

Praxair is Danbury, Connecticut-based, multinational corporation with about 60 years of experience in research and development in gas separation technology. Praxair currently holds almost 3,000 patents in the field of air and gas separation technologies. Hydrogen purification, compression and storage are evolving and dynamic technologies, with a great deal of competition in the fields. These factors, combined with the highly

aggressive research and development being done in this field worldwide, it is not foreseen that the grant of this waiver would decrease competition, cause undesirable market concentration, nor place Praxair in a dominant market position.

Praxair has agreed to abide by 35 U.S.C. §§ 202, 203 and 204, as well as the provisions of the Standard Patent Rights clause for an Advance Waiver. Additionally, Praxair has agreed to the standard U.S. Competitiveness Clause (attached). Praxair will abide by the Export Control laws and will require its licensees, if any, to do the same. Praxair will expend such sums as may be required to maintain the necessary patent protection and provide incentive for commercial development of the invention. Additionally, Praxair, as part of the advance waiver petition, has agreed to the background data rights clause found in 48 CFR 952.227-14, Alternate VI (February 1998).

Considering Praxair's status as a leader in the research, development, production and commercialization of gas separation technology, it is concluded that the grant of the requested waiver is most likely to achieve commercialization success and actual implementation of the hydrogen refueling station which is the focus of the overall cooperative agreement on both a national and global scale.

As such, upon evaluation of the Waiver Petition in view of the objectives and considerations set forth in 10 CFR 784.4, all of which have been considered, it is recommended that the requested waiver be granted.

[redacted]

Jim C. Durkis
Patent Attorney
NNSA Service Center

Based on the foregoing Statement of Considerations and the representations of the attached Waiver Petition, it is determined that the interests of the United States and the general public will best be served by a waiver of patent rights of the scope described above and, therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the cooperative agreement where, through such modification or extension, the purpose, scope or DOE cost of the cooperative agreement have been substantially altered.

CONCURRENCE:

[redacted]

Steven G. Chalk
Program Manager, EE-2H

Date: 4/20/04

[redacted]

APPROVAL:

Paul A. Gottlieb
Assistant General Counsel for
Technology Transfer and
Intellectual Property (GC-62)

Date: 5-7-04

DOE Headquarters Project Manager: Pete Devlin

Proposed Amended U.S. Competitiveness Provision

The Contractor agrees that any products, processes, or services for use or sale in the United States under any United States patent resulting from a waived subject invention will be manufactured, practiced or provided substantially in the United States, unless the Contractor can show to the satisfaction of DOE that it is not commercially practical to do so. It is agreed that it may not be commercially practical to manufacture a Pressure Swing Adsorption (PSA) system in the United States when such system will be put to use outside the United States. This is because it may be more commercially practical, due to manufacturing, shipping, taxation and/or exportation costs, to manufacture the PSA system where the PSA system will be used. Further, because Contractor is only making a component of a system, the prime contractor may require manufacture of such component in the same country where the prime contractor is manufacturing the system. The Contractor agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license or other transfer of rights in any waived invention is suspended until approved in writing by the DOE.

U.S. Competitiveness Provision

The Contractor agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless the Contractor can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of technology be recognized in some appropriate manner, e.g., recoupment of Government investment, etc. The Contractor further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license or other transfer of rights in any waived invention is suspended until approved in writing by DOE.